

## **SPLASH 2004: NOAA Ship McArthur Weekly Science Report**

15 July 2004

Jay Barlow, Cruise Leader

### **SCIENCE SUMMARY: Thursday, 8 July to Wednesday, 14 July 2004**

“How many places on earth can you see a blue whale, a fin whale, a humpback whale, a sperm whale, Dall’s porpoises, red crossbills, and white-wing crossbills, all at the same time” – Rowlett 2004. We found that one place in space and time, and it may not ever exist again. But ... I get ahead of myself.

Our week began as we left the protected inland waters of Southeast Alaska for the open Pacific. We refueled AR1 at a little marina in Elfin Cove. Conditions had calmed considerably on the “outside” and we found lots of humpback whales in the areas just south of and north of Cross Sound (the entrance to Icy Strait). We spent three days working high densities of humpbacks and ending up on the famous fishing area known as the Fairweather Grounds. Drifting there at night, our on-board fishermen brought up half a dozen nice rockfish, two of which migrated onto our dinner table the next night (thanks, guys).

The next three days brought a dearth of humpback whales. We had entered the “Yakutat Hole”, a curious coastal region of the Gulf of Alaska where few humpback whales were ever taken during the whaling era. Nothing about the underwater topography can explain this lack of humpbacks, but seabirds agreed that the area holds no interest. We did, however, see quite a few fin whales and sperm whales in the “hole” and we greatly increased our biopsy and photo samples from those species. We also picked up some hitchhikers. First, a pair of white-winged crossbills joined us. These beautiful forest birds, tinged with red, were obviously lost at sea. Richard nursed one of them back to life in his room and started both of them on a diet of fancy mixed nuts. Normally they eat pine nuts, but there was a shortage of those aboard. A couple of days later, a bachelor herd of five red crossbills joined the flying bridge aviary.

We stopped at Yakutat to take on seven 55-gallon drums of gasoline for the small boats. Almost as important to Richard, we also picked up a big bag of sunflower seeds, which now powers the aviary (although the crossbills still demand mixed nuts as their happy-hour treat).

On our first full day out of Yakutat, we had our first close encounter with killer whales. We scored a home run with this group ... biopsies, photos, acoustic recordings, and a re-sight. Michael Richlen thinks that we encountered two groups of transient killer whales holding a clan meeting. They were certainly more vocal than most transient killer whales. The re-sight occurred later that same day. On the next zig out from the coast, we encountered some of the same animals, 30 miles from the original sighting and 9 hours later.

Yesterday we left the Yakutat Hole and entered a magic world. The day started with many fin whale sightings. Juan Carlos obtained 12 biopsy samples from fin whales in a single morning, certainly a record for SWFSC cruises. We also found several sperm whales early in the day. However, things really started to get crazy around 6 pm when we had rapid-fire sightings of fin whales, followed by humpback whales, sperm whales, and the ultimate treat ... a blue whale!!! There have been no blue whales seen on any marine mammal surveys in Alaska since the end of commercial whaling for this species in the 1960s. Needless to say, we spent the rest of the day in this area, trying to obtain as much data as possible on the blue whale and other species. We obtained photos, video, and a biopsy from the blue whale. We also deployed two sonobuoys around the blue whale to record its baritone calls. Everything was successful, but, alas, this whale had nothing to say. The strong, silent type. The science crew ended the day exhausted, but happy in knowing that their discovery may be an important footnote in the story of blue whale recovery in the Gulf of Alaska.

### **RE-SIGHTING NEWS:**

This week was amazing for its redundancy. We re-sighted the same group of killer whales twice in the same day (see above). We also re-sighted the same group of fin whales on Monday evening and Tuesday morning, about 10 miles apart. Why do these whales keep following us around? I can only conclude that they like to be biopsied.

We also had our first external match ... one of the flukes we photographed in Chatham Strait matched an animal in the Southeast Alaska catalog. Jen Cedarleaf and Jan Straley provided some background information on our whale. It was first photographed ten years ago in Frederick Sound. It was also photographed in Seymour Canal in 2003.

### **Sightings and Effort Summary for Marine Mammals**

Date	Start/Stop Time	Position	Total Distance	Avg. Beaufort
070804	1327	N57:56.10 W136:48.25	12.0 nmi	1.9
	2048	N57:46.55 W137:04.44		
070904	0557	N58:01.76 W136:50.11	34.5 nmi	1.7
	2105	N58:15.57 W138:19.89		
071004	0558	N58:03.12 W138:49.44	23.8 nmi	2.1
	1830	N58:12.70 W138:26.05		
071104	0600	N58:34.54 W138:35.10	122.9 nmi	3.2
	2120	N59:14.44 W139:59.50		
071204	1633	N59:32.53 W140:02.05	35.3 nmi	3.3
	1957	N59:05.32 W140:46.04		
071304	0600	N59:06.00 W140:45.35	93.0 nmi	1.0
	1930	N59:22.98 W142:08.88		
071404	0602	N59:14.39 W142:28.60	89.7 nmi	2.8
	1806	N59:18.84 W143:45.17		

Yes, these Beaufort sea states are correct, and yes, we are still in the Gulf of Alaska.

CODE	SPECIES	TOT#
037	Orcinus orca	2
046	Physeter macrocephalus	8
070	Balaenoptera sp.	1
071	Balaenoptera acutorostrata	5
074	Balaenoptera physalus	16
075	Balaenoptera musculus	1
076	Megaptera novaeangliae	30
078	unid. small whale	1
079	unid. large whale	2
TOTAL		66

Note: Dall's & harbor porpoises and pinnipeds are not included.

### **Photo-Project (Holly Fearnbach)**

Species	Weekly	Cumulative
Humpback whale		
Catalog-quality Flukes	67	170
Fin whale	25	27
Sperm whale	7	7
Blue whale	1	1
Killer whale	10	10
Northern right whale dolphins	0	1
Pacific white-sided dolphins	0	3
Cuvier's beaked whale (dead)	0	1
Steller sea lion	0	1

### **Acoustics Squeakly Report**

The Gulf of Alaska has not been kind to acoustics, but it's a small price to pay for such incredible weather (oh, the sacrifices we make!). Despite the frustrations, we were able to make several recordings this week, primarily of our beloved sperm whales. Give us a slope, and we'll give you sperm whales. A bonus was a successful sonobuoy deployed on a group of killer whales... The folks in the small boat could hear their calls in the air, and the sonobuoy did not let us down. Finally, we had the opportunity we have been waiting for.... a blue whale in the N. Gulf of Alaska!! AR-1 helped us deploy two buoys near the whale, while the ship stood off and monitored the situation... Everything fell in place quite lovely. Despite the presence of blue, fin, humpback, minke, and sperm whales... the sonobuoy was depressingly quiet. I take that back-- the sperm whales did not let us down (we are not that lucky!). Oh well, next time?

**Poetry Section (Katie Roberts, SPLASH Candidate Poet Laureate)**

**Chatham Strait Haiku**

Shimmering sun rays  
Dance and awash Chatham Strait,  
Cetacean playground

Big Wings New England  
Gracefully arches, then splash!  
A fluke flashes white

First fin then caudal  
A pause and then the moment,  
Perfectly framed form

A bubbling curtain  
Rises and foams and surrounds  
hypnotized herring

Throat pleats distended  
The cavernous mandible  
Artfully ascends

**Biopsies (Juan Carlos Salinas)**

Species	Weekly	Cumulative
Humpback whale	42	115
Fin whale	19	20
Blue whale	1	1
Sperm whale	4	4
Killer whale	5	5
Dall's porpoise	0	1
Cuvier's beaked whale*	1	1

\*dead when sampled

### **Oceanographic Operations (Lillian Stuart)**

Date	Number CTDs	
7/8	1	
7/9	1	
7/10	0	(Fairweather Grounds ... too shallow)
7/11	1	
7/12	1	
7/13	1	
7/14	1	